

## Modelling of diesel engine fuelled with biodiesel using engine simulation software

### Abstract:

This paper is about modelling of a diesel engine that operates using biodiesel fuels. The model is used to simulate or predict the performance and combustion of the engine by simplified the geometry of engine component in the software. The model is produced using one-dimensional (1D) engine simulation software called GT-Power. The fuel properties library in the software is expanded to include palm oil based biodiesel fuels. Experimental works are performed to investigate the effect of biodiesel fuels on the heat release profiles and the engine performance curves. The model is validated with experimental data and good agreement is observed. The simulation results show that combustion characteristics and engine performances differ when biodiesel fuels are used instead of no. 2 diesel fuel.